



ONE DOLLAR PER YEAR.

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GEO. W. YORK, ASSISTANT EDITOR.

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Editorial Buzzings.

The Glad Spring-tide is here again ;

The thrushes sing all day ;
We've violets in the sheltered glen,
And gorse-bloom on the brae ;
Along a green and daisied world,
The lights and shadows flit ;
The cherry trees with buds are pearled,
The crocus lamps are lit.

The Board of Lady Managers proposes to erect near the Woman's building a children's home, or public comfort pavilion for mothers and children. The estimate for the building is \$20,000, and for the maintenance \$10,000, which sums it is proposed to raise by subscription. It is believed that such a place where young children can be safe and well cared for while their parents view the sights of the Exposition, will prove to be a great and appreciated convenience.

So Universal has the grippe held sway this Spring, that to chronicle all the cases is nearly impossible. The latest one recorded is our friend James Heddon, who has been confined to his residence by it for three weeks, and has been disabled for six weeks more. We are glad to report that he is now convalescing.

Among the Many bee-keepers we met without appointment during our late trip, was Mr. J. B. Hains, of Bedford, Ohio, whom we saw with his son, Dr. Hains, at Kent, O. It is a pleasure to meet such an enthusiastic bee-keeper as Mr. Hains anywhere in the world.

While riding on the cars, we saw many apiaries, large and small, dotting woodland and valley, awaiting the coming of the blossoms soon to beautify the face of Nature, and give the bees a chance to gather honey for feeding the coming generation; and still later to store it for their keepers, and do their share towards supplying the wants of the waiting world.

The Friends of Mr. George E. Hilton, of Fremont, Mich., are trying to get him to represent them in the Legislature of that State, as we notice by the *Fremont Indicator*. Friend Hilton is a popular man, and worthy of any good thing that his countrymen can bestow upon him.

Mrs. Jennie Atchley, of Floyd, Tex., we are sorry to say, has been sick with "slow fever" for 20 days, and was just getting able to be up again on April 29. We, as well as many of our readers, can sympathize most fully with our sister apiarist, as so many of us have been more or less afflicted recently.

Farming has not paid as well as bee-keeping for the past few years, is a statement in the *Canadian Bee Journal*.

Dr. J. H. Kellogg, of Battle Creek, Mich., has made some very startling blunders relative to bees and honey. During the past ten years the AMERICAN BEE JOURNAL has had to correct him several times. He evidently is too busy to investigate for himself, and is thus often drawn into indorsing the very stupid misstatements of others. In *Gleanings* for the 1st of April we find the following concerning his latest blundering and narrow-minded assertions:

The following, from Dr. Kellogg, is clipped from a newspaper, and sent us by one of our correspondents:

"Honey, in its best estate, is not a pure sweet, and consequently is open to greater objections than free sugar. The bees are not very nice in their habits, and gather their stores in all sorts of places, sometimes hovering over that which is very loathsome and unclean. In gathering the nectar from flowers, the bee rubs off more or less of the pollen and carries it home with him and deposits it with the honey. If the pollen happens to be poisonous, the honey is poisoned. At Trebizond, Turkey, poisonous flowers abound so that the honey at that point is always poisonous. Further, the bee always puts in a certain quantity of poison from the poison-bag, formic acid, to preserve the honey. If the bees are very much disturbed while at their work, they inject an unusual amount of this formic acid into their product, and so the honey becomes 'rank.' A person who eats 'rank' honey will be taken sick, and likely break out with a rash similar to nettlerash, formic acid being the poison in both instances. These facts have all been determined by scientific investigations."

We have great respect for Dr. Kellogg; but, like other great men, he has made some bad blunders. And, by the way, "big doctors," it seems to me, are too apt to make positive assertions in regard to things a little outside of their field, that are only mere conjecture. His expression, "Bees are not very nice in their habits," may be true in a narrow sense; but the statement is mostly misleading as it stands, as any one conversant with honey-bees knows.

Again, he says, "If the pollen happens to be poisonous, the honey is poisoned." This reminds us of the fearful blunder made by the health commissioners of New York city last season in condemn-

ing grapes. They *did* see a little poison on the stems of the grapes, very likely; but in order to do any harm, a man would need to eat *a ton of grapes* at a meal, stems and all; and even then it is doubtful whether the quantity of poison he received would prove fatal.

The honey at Trebizond, Turkey, is "always poisonous," is it? Perhaps we can find out something more about that. If there is anybody who has ever been near that locality, I would kindly ask him to give the address of some proper person, and have the matter investigated. Such a newspaper statement would be damaging to the "real-estate prospects" of that locality. We would respectfully call the attention of the Sublime Porte of Turkey to the above slanderous statements in regard to his dominion.

Another thing. Does the honey-bee *always* put formic acid in the honey? Will Prof. Cook please tell us about these things that come within his domain?

Some writer, if I am correct, once suggested that the operation of extracting honey stirs the bees up to such an extent that they inject bee-sting poison into the honey, and this is why extracted-honey is more likely to make people sick than comb-honey. The writer was probably working for comb-honey, and felt anxious that the great public should give comb-honey the preference—i. e., pay a bigger price for it.

Then, again, "The person who eats rank honey will be taken sick." This is another of the positive assertions; and yet we have readers who eat raw honey about as friend Terry and I eat strawberries, and it does not make them sick. The rest of the sentence would indicate that, whenever any of you break out with a rash, all you have to do is to think back when you last ate some honey.

Of course it is undisputed that "poisoned honey" was found in Trebizond, for history proves it. There is also some in America, which comes from the mountain laurel; but it is only the "drop" compared to the ocean!

We hope that Prof. Cook, or some other competent authority, will deal out full measure of truth in answer to the Doctor's wholesale assertions and slanders about the formic acid in honey.

That honey is one of the most potent medicines has been acknowledged for

thousands of years. In fact, it is a truth "as old as the hills," and as indisputable as the universe itself. We point with pride to the vast stores of facts concerning the medical virtues of honey, furnished by Aristotle, Hippocrates, Galen, Pliny, and many other old medical authors.

Schuckard, in his work on "British Bees," says: "The earliest manuscript extant, which is the medical papyrus, now in the Royal Collection at Berlin, and of which Brugsch has given a facsimile and a translation, dates from the nineteenth or twentieth Egyptian dynasty, accordingly from the reign of Ramses II., and goes back to the fourteenth century before our era. But a portion of this papyrus indicates a much higher antiquity, extending as far back as the period of the sovereigns who built the pyramids, consequently to the very earliest period of the history of the world.

"It was one of the medical treatises contained within the temple of Ptah, at Memphis, and which the Egyptian physicians were required to use in the practice of their profession, and if they neglect such use, they became responsible for the death of such patients who succumbed under their treatment, it being attributed to their contravening the sacred prescriptions. This pharmacopoeia enumerates amongst its many ingredients, honey, wine, and milk; we have thus extremely early positive evidence of the cultivation of bees. That they had been domesticated for use in those remote times is further shown by the fact mentioned by Sir Gardiner Wilkinson, of a hive being represented upon an ancient tomb at Thebes.

"It may have been in consequence of some traditional knowledge of the ancient medical practice of the Egyptians, that Mahomet, in his Koran, prescribes honey as a medicine. One of the Suras, or chapters, of that work, is entitled 'The Bee,' and in which Mahomet says: The Lord spake by inspiration unto the

Bee, saying: 'Provide thee houses in the mountains and in the trees [clearly signifying the cavities in the rocks and hollows of trees, wherein the bees constructed their combs], and of those materials wherewith men build hives for thee; then eat of every kind of fruit, and walk in the beaten paths of the Lord.' There proceedeth from their bellies a liquor, wherein is a medicine for men. Verily, herein is a sign unto people who consider.

"It is remarkable that the bee is the only creature that Mahomet assumes the Almighty to have directly addressed. Al-Beldawi, the Arabian commentator upon the Koran, whose authority ranks very high, in notes upon passages of the preceding extract, says, 'The houses alluded to are the combs, whose beautiful workmanship and admirable contrivance no geometrician can excel.'

"The 'beaten paths of thy Lord,' he says, 'are the ways through which, by God's power, the bitter flowers passing the bee's stomach, become honey; or, the methods of making honey he has taught her by instinct, or else the ready way home from the distant places to which that insect flies.'

"The liquor proceeding from their bellies, Al-Beldawi says, 'is the honey, the color of which is very different, occasioned by the different plants on which the bees feed; some being white, some yellow, some red, and some black.'

"He appends a note to where Mahomet says, 'therein is a medicine for man,' which contains a curious anecdote. The note says, 'The same being not only good for food, but a useful remedy in several distempers.'

"There is a story that a man once came to Mahomet, and told him his brother was afflicted with a violent pain in his belly; upon which the prophet bade him give him some honey. The fellow took his advice; but soon after, coming again, told him that the medicine had done his brother no manner of service. Mahomet says: 'Go,

and give him more honey, for God speaks truth, and thy brother's belly lies.' And the dose being repeated, the man, by God's mercy, was immediately cured."

Bees and Fruit-Growers, as we have so often said, should be the best of friends, and ought to do all in their power to preserve harmony in their midst. Their interests are so identical and mutually beneficial that nothing should be permitted to interfere with the most pleasant and cordial relations existing between those who produce honey and those who grow fruits and seeds.

Mr. Frank Benton, an attache of the Department of Agriculture at Washington, D.C., prepared an article for the last issue of *Insect Life*, which covers the ground so clearly and thoroughly that we reproduce it here for the benefit of our readers. It is as follows:

BEES OF GREAT VALUE TO FRUIT AND SEED GROWERS.

At last fruit-growers and bee-keepers are getting into right relations with each other. The numerous discussions which have taken place regarding the value of bees as fertilizers of fruit blossoms, and of those blossoms of plants grown for their seeds, and regarding the alleged damage to fruit by bees have led to close observation and careful experimentation, the results of which show that the interests of these two classes of producers conflict in but trifling respects—that, in fact, bee-keepers and fruit-growers are of great help to each other, and even indispensable if each is to obtain the best results in his work.

Bee-keepers have never complained, but that the growing of fruit in the vicinity of their apiaries was a great benefit to their interests, hence their position has been merely a defensive one, the battle waxing warmer only when poisonous substances were set out to kill off the bees, or when fruit-growers sprayed their orchards with poisonous insecticides during the time the trees were in blossom, or again when efforts were made to secure by legislation the removal of bees from a certain locality as nuisances.

Fruit-growers first relented when close observation and experiment showed

that wasps bit open tender fruits, birds pecked them, they cracked under the action of sun and rains, and hail sometimes cut them, the bees only coming in to save the wasting juices of the injured fruit. The wide publicity given to the results of the experiments made under the direction of the United States entomologists, and published in the report of the Commissioner of Agriculture for 1885, have, no doubt, contributed much to secure this change among fruit-growers.

But now it would appear that the bees have not only been vindicated, but that in the future fruit-growers are likely to be generally regarded as more indebted to bee-keepers than the latter are to the fruit-growers, for the amount of honey the bees secure from fruit-blossoms comes far short of equaling in value that part of the fruit crop which many accurate observations and experiments indicate is due to the complete cross-fertilization of the blossoms by bees.

The observations and researches of Hildebrand, Muller, Delpino, Darwin, and others, as well as the excellent explanation of the subject in Cheshire's recent work, have gone far to prove how greatly blossoms depend upon the agency of bees for their fertilization, and hence for the production of seeds and fruits.

The facts they have brought forward are gradually becoming more widely known among fruit-growers and bee-keepers, and additional evidence accumulates. A case illustrating very clearly the value of bees in an orchard has recently come to the notice of the writer, and its authenticity is confirmed by correspondence with the parties named, who are gentlemen of long and extensive experience in fruit-growing, recognized in their locality as being authorities, particularly in regard to cherry-culture. The facts are these:

For several weeks the cherry crop of Vaca Valley, in Solano county, Calif., has not been good, although it was formerly quite sure. The partial or complete failures have been attributed to north winds, chilling rains, and similar climatic conditions, but in the minds of Messrs. Bassford, of Cherry Glen, these causes did not sufficiently account for all the cases of failure.

These gentlemen recollect that formerly when the cherry crops were good, wild bees were very plentiful in the valley, and hence thought perhaps the lack of fruit since most of the bees had disappeared, might be due to imperfect distribution of the pollen of the blossoms. To test the matter they placed, there-

fore, several colonies of bees in their orchard in 1890. The result was striking, for the Bassford orchard bore a good crop of cherries, while other growers in the valley, who had no bees, found their crops entire or partial failures. This year (1891) Messrs. Bassford had some 65 colonies of bees in their orchard, and Mr. H. A. Bassford writes to the Entomologist: "Our crop was good this season, and we attribute it to the bees." And he adds further:

Since we have been keeping bees our cherry crop has been much larger than formerly, while those orchards nearest us, five miles from here, where no bees are kept, have produced but light crops.

The *Vacaville Enterprise* said last Spring, when referring to the result of the experiment for 1890:

Other orchardists are watching this enterprise with great interest, and may conclude that to succeed in cherry-culture, a bee-hive and a cherry orchard must be planted side by side.

And now the result for 1891 is known, "others," so Mr. Bassford writes, "who have cherry orchards in the valley, are procuring bees to effect the fertilization of the blossoms."

Father Langstroth's brain-troubles are again ended for a time, after an attack lasting three years. It is an extreme pleasure to receive the following letter from him, which details his condition and exultant feelings:

DAYTON, O., May 6, 1892.

MR. THOMAS G. NEWMAN—

MY DEAR OLD FRIEND:—I know that you will be glad to learn that I have at last gained relief from my sad head-trouble, the last and longest attack of which has lasted nearly three years.

Instead of the desponding experience of the writer of Psalms 42nd and 43rd, who cried, "Why art thou cast down O my soul? and why art thou disquieted within me? O my God, my soul is cast down within me. Deep calleth unto deep at the noise of thy water spouts. All thy waves and thy billows have gone over me." I can say: God has sent out his light and his truth to lead me. I can again hope in God, and can with joy feel heart to praise him, who is "the health of my countenance, and my God."

My daughter could see that the dark clouds were being gradually though but slightly lifted up, but the transition from great suffering to joy and gladness, took place in a few hours.

I have been much pained to learn of your serious nervous prostration, and hope that you will soon be able to resume without any risk your valuable labors. With much love to yourself and family circle, I remain as ever,

Your affectionate friend,

L. L. LANGSTROTH.

Queries and Replies.

Keeping Bees from Watering-Troughs.

QUERY 818.—Please inform me what to do to keep our bees away from our neighbor's watering-trough? All through the Summer they annoy almost beyond endurance, and it annoys us equally as much. We have applied carbolic acid to the edges of the trough, but to no effect. We put out plenty of water at home, but the bees seem determined to visit the neighbors. When a man comes up at noon with three or four horses, it is not pleasant to have bees running up the noses of the horses, and, after awhile, some of the horses would go without their drink on account of the bees. We cannot think what to do to help matters. —Bee-Keeper's Wife.

I do not know, unless they are so confined that they cannot fly at all.—J. E. POND.

I know of no way except to put a hinge cover over the trough, which may thus be closed except when in use. This would be effective.—A. J. COOK.

Have two troughs. Keep the one empty for the horses, only when in use. Keep the other one always supplied with water.—J. M. HAMBAUGH.

Give plenty of fresh water in a wooden trough at home. How far from you is the neighbor? They may not be your bees.—MRS. L. HARRISON.

If the neighbor will empty the trough as soon as the horses are done drinking, the bees will cease to visit it. I know of no other way.—M. MAHIN.

Put a little salt in the water you furnish at home, and allow it to ooze into sawdust or decayed wood, and you will have no trouble.—G. M. DOOLITTLE.

Place the water at home in troughs, "dug-outs," or as inviting to the bees as your neighbor's, and then apply carbolic acid to the sides of the neighbor's troughs.—J. P. H. BROWN.

In early Spring get your watering places ready, and "bate" them with some sweetened water, and they will go to them in place of your neighbor's.—H. D. CUTTING.

Commence early in the Spring to give them warm water in some sunny place protected from the wind, and see to it

that there is *always* water there; as the season advances, it need not be warmed. If necessary, cover the horse trough with a hinged lid.—MRS. J. N. HEATER.

Keep salted water at home *early* and *always*. Try carbolic acid in larger quantity. Keep the neighbor's trough covered, if possible, when not in use.—C. C. MILLER.

Keep the troughs closed with covers so close that bees cannot get in. If kept closed except when horses are watering, the bees will cease to trouble.—R. L. TAYLOR.

If possible, cover up the trough when not in use. Also *early* in the season educate your bees to take water from a supply furnished them near home.—P. H. ELWOOD.

Make a good watering place near the apiary *early* in Spring, before the bees get in the habit of going to the water-trough. If a handful of salt is scattered over the wet place for the bees, it is a great attraction. Rub the horse-trough with kerosene.—C. H. DIBBERN.

This is a vexed question. We think the bees would visit the neighbor's trough much less if it was kept in the shade during Summer, say under a shed. They contract the habit in *early* Spring, and go in preference to sunny places.—DADANT & SON.

Put out water for your bees so *early* in the season that your bees will form the habit of visiting it rather than go to your neighbor's water. If you once let your bees establish the habit of visiting the wrong place for water, you cannot turn them by any means I know of.—G. W. DEMAREE.

Buy the old water-soaked trough and remove it (bees and all) to your own land. Get your neighbor to go without any trough a few days. Then set up for him a metal trough. If this does not cure your renegade bees, they have "got it so bad" that they cannot be healed by any remedy I know of.—JAMES HEDDON.

Try painting the sides of the troughs with kerosene, being careful not to put on so much that it will float on the water so as to make it disagreeable. Crude petroleum would probably be better. Apply when the wood is dry, and let it soak in, putting on all the wood will absorb.—JAMES A. GREEN.

It is not easy to keep bees away from a watering-place after they have once got started. Where such trouble occurs

I would advise to fix up watering-troughs in the apiary. Fill a tight box-trough with corn cobs, fill with water, put in a little salt, and start the bees upon it *early* with a piece of comb-honey.—G. L. TINKER.

The querist will please ask something *easy*. If she will tell me how to keep my bees away from my neighbor's peach orchard when in bloom, I will tell her how to keep her bees from her neighbor's watering-trough. I would try and not let them get into the habit, by keeping plenty of good water near by.—MRS. JENNIE ATCHLEY.

I have been troubled in the same way. We happened to buy the land, then we built a shed over the trough for the cows to run under, open only on one side (south side). The trough is in the north side of the shed, all sides except the south boarded up tight, then it was cool and shady where the water-trough was. No bees have been there since.—E. FRANCE.

After bees get accustomed to going to a certain place for water it is difficult to stop them. If a place were provided for them only a few rods from the apiary *early in the Spring*, and kept in just the right condition, it might help. I notice that if a trough leaks enough to keep the ground around it muddy, the bees are usually found on the ground, and not in the trough.—EUGENE SECOR.

I "kinder thought" a lady was asking this question before I had read it all. The "Golden Rule" shines out. There is probably some quality in the water at the "neighbor's watering-trough" that the bees like, that is not in the water you put out for them. Perhaps a little salt in the water used at home would remedy the evil. Bees seem to prefer water that is a little old. Trading troughs with the neighbor might answer.—A. B. MASON.

When bees have formed the habit of going to any place for water, it is a difficult matter to prevent their continuing to go to the same place, and hence they should be provided with water at home *early* in the Spring, and be "enticed" there for their regular supply. A little salt in the water at the home trough will make it inviting to the bees, and at the same time to give the sides of your neighbor's trough a coat of kerosene oil, would help to cultivate a liking for the home trough, which should be placed in a sunny spot.—THE EDITOR.

Topics of Interest.

Some Remarks on Closed-End Frames.

JAMES HEDDON.

I have just read Dr. Tinker's essay on the above subject, on page 577. When "great lights" (?) differ so widely, it will no doubt be well to discuss the subject *pro* and *con*.

What the Doctor says about Father Langstroth's invention is true in the main; that invention marks the line between the go-lucky method of honey production and the scientific way. Easy movable frames were the educators of bee owners, but after the bee-keeper has his education, then it becomes a question whether or not he can produce the most honey with less expense with these hanging frames or with the fixed frames, especially when the latter are arranged so as to be as easily moved as the former.

Again, before the advent of comb-foundation, the lateral movement was almost a necessity, especially if the frames were deep; now it is of no especial account, particularly with the shallow frames. Bee-keepers are beginning to see that it is to their interest to adopt fixed frames.

To make money out of bee-keeping at the present prices, it becomes necessary to keep larger apiaries and economize in labor; this demands the handling of hives more and frames less, which is the old topic I was the first to write about, nearly ten years ago. So far the Doctor and I do not differ very much, but when he says that fixed frames had better be arranged some other way than to have closed end-bars, there we differ widely. I maintain that end-bars should be tight fitting their entire length, and that they should fit each other tightly, and the case loosely, so as to admit of easy manipulation in and out, while they fit closely enough to entirely prevent the bees from going between them and the case. Of course it will be seen at once that if the frames do not fit each other tightly, their entire length, they must have bee-spaces between their ends and the case.

I object to the Hoffman. I have always considered it the worst frame yet devised, and I give for my reasons the fact that the uprights touch each other only apart of their length, which gives the frames their fixedness, while

the openings between them, a portion of their length and between them and the case, do not admit of rapid, easy manipulation, because they invite propolis and burr-combs, and assist in pinching bees when withdrawing or re-inserting them in the case.

I leave wholly out of the question the objections many writers have made to the space they take up, circulation of air, etc., as I consider them minor; but another important objection is the lurking place they afford for the queen when we are searching for her. I do not wonder that the Doctor entertains doubts regarding fixed-frames taking the place of hanging Langstroth frames. I have more doubts than he, unless those fixed frames have uprights tightly fitting each other their entire length, and fitting the case as above described.

The Doctor says that nothing can be better than the Langstroth arrangement, because it has been used for so many, many years; well, if he is right, it is no use for us to attempt any improvements. If this is true, the same is true in horticulture. As with the Langstroth frame, the Wilson's Albany Seedling Strawberry is by its present popular use pronounced the best extant, and it is about the same age as the Langstroth frame. But the horticulturist, as usual, will endeavor to produce a strawberry better, as an all-around market-berry, than the Wilson.

Think of the many years the Hoffman frame was before the public without favor. The Doctor mentions our friends Root, of Medina, and just here I wish to say, that in my opinion their advocacy of the Hoffman frame, and not general experience with that frame is what is giving it its temporary reputation. I have always considered it the least adapted to the instinct of the honey-bee, and the convenience of the bee-keeper.

Am I not correct in saying that there was very little demand for any kind of fixed frames when I began introducing my new hive, six years ago? Was there then a supply dealer in America who was selling hives containing fixed frames of any kind? I do not know of one; since that time they have become somewhat popular. I presume that friend Root does not desire to infringe my invention as regards the frame or the brood-sections in two sections, and in trying to meet the demand for fixed frames in some shape, he has adopted the old Hoffman, and if he is not already convinced, I shall labor hard before the end of 1892 to convince friend Root that the Hoffman is an unscientific

frame, just as bee-keepers at large pronounced it from the time of its inception until quite recently.

Bee-keepers are not so dull that it takes so many years to discover the merits of a comb-frame; at least not the large honey-producers. It must be remembered that friend Root can sell anything he advertises in his circulars with a circulation of many thousands.

I shall be very glad to have the Doctor, or any other bee-keeper, tell us why the partially open-end frames are preferable. I have tried them, and cannot find their alleged merits. I am still making honey-producing pay, and pay well; but to do it I am compelled to do only necessary work, and do that rapidly and well. Fixed frames, arranged as is above described, are an absolute necessity to that end.

Dowagiac, Mich.

Basswood Trees—Italian Bees.

J. M. PRATT.

In reply to Mr. J. C. Lillibridge, on page 544, I would say that in March, 1884, I asked about planting trees. I immediately set out a lot of them. The following Summer was very dry, yet three-fourths of what I set out lived. They are now from 20 to 25 feet high. I have just measured one, and it was 20 inches in circumference, and 10 feet through its bushy top.

They were 5 or 6 years old when set out, and have bloomed every year from the second year after setting. They grow while I sleep, and I feel that I am already paid for my time and labor.

I believe the cause of so much dissatisfaction with Italian bees is that bee-keepers buy queens of soome good breeder, and introduce them to colonies of black bees, and the queens are forced to lay eggs in cells built by the black bees, which are too small for pure Italians. Of course, the bees will then be no larger or better than the common blacks. Remember that bees are fully matured in the cell, that they do not grow after leaving the cell. Nor would I expect to rear fine, large chickens from small hen's eggs, even though they grow after leaving the shell. The large chickens hatched from the large eggs, even in the same brood, will always keep the lead in size. Also too close spacing of combs will produce dwarfed and worthless bees.

It is best to buy a full colony of Italian bees, on their own built combs, and keep this colony building combs as fast as possible for the queens that are bought; also give them all the comb-foundation they will work, which is large enough for them, and see if you will not be better satisfied with Italian bees. I have had them side by side in the same yard, with the same attention, and my neighbors have the blacks. I have watched them closely for ten years.

When we have cold weather during fruit-bloom, and no white clover, the Italians will build up early, and are ready for all the honey that may come from other sources—red clover, iron-weed, the big blue thistle, and golden-rod; while I have not yet seen a single black bee at work on any of them.

I was a little amused, not long ago, at one man writing in favor of black bees, and in the same article mentioned how bad the moth-worms were. I knew how bad they were when I kept the blacks, cutting through the honey and causing it to drip, and then robbing would begin in earnest. I once removed three combs of moth and web from a queenless colony, to one of my other colonies, and placed them in the second story, at the same time giving the queenless colony three frames of brood and eggs from the same.

My wife said, "Oh, you will ruin that colony of bees with all those worms and web."

I told her that we would see to-morrow. She did not let me forget it, either. I was busy at the time, so I told her to go and look in front of the hive. She went, and said, "There are web and worms outside in front of the hive."

Then at my leisure I opened the hive and found the three combs all clean, and honey being stored; the damaged places in the combs were being repaired. I am often asked by my neighbors how to keep the moth out. I tell them to do so by first keeping the black bees out.

As to the stinging qualities of the two races of bees, the Italians will hurt worse when they sting than the others; they seem to have the power to strike like a hornet, yet we are seldom stung, with the path to the garden right through the bee-yard. I do my plowing in there just in front of the bees.

I use the Langstroth frame without the flat wooden bottom, using a No. 9 wire instead. I have used this frame for eight years, and want no other. The combs are built and joined to the wire below, making them stronger and easier

to handle; easier to lift out a comb, or put it back again, to find a queen, or to brush off the bees. They extract with less breakage of combs. There is nothing in the way of the bees cleaning out the bottom of the hives. The combs are never joined or glued to the bottom of the hive, as is the case with wooden bottoms. When the hives shrink so as to let the frame near the bottom of the hive, they will sometimes join the combs to the top-bars in the lower story, from the second or third story. They give me less trouble in every way than the wooden bottom.

Todd's Point, Ky.

Progress in Lower Animals.

REV. E. T. ABBOTT.

I have read Prof. E. P. Evans' article on "Progress in Lower Animals," in the December number of the *Popular Science Monthly*, and it seems to me that some of the statements found therein call for the attention of a practical apiarist. If all of them have no more foundation in fact than have those relating to bees, they furnish a very flimsy support upon which to found any kind of an argument.

I am well aware that there is a good deal of nonsense written in the name of science, but I do not remember having seen so many misrepresentations of facts, in the same length of space, in any article I ever read.

The Professor says: "Bee-hives which suffer from over-production rear a queen and send forth with her a swarm of emigrants to colonize, and the relations of the mother-hive to her colonies are known (by whom?) to be much closer and more cordial than those which she sustains to apian communities with which she has no genetic connection. Here the ties of kinship are as strongly and clearly recognized as they are between consanguineous tribes of men."

It is true that bees rear queens and swarm, but they do not rear a queen to send forth with a "swarm of emigrants," for the young queen is not out of her cell until the old queen, her mother, is out of the hive and gone with the new colony.

The "ties of kinship" are such that should the young queen issue from her cell before the old one leaves the hive, she would usually receive a fatal sting from her mother, notwithstanding her "genetic connection"—whatever that

may mean. And the first young queen that gains her liberty is apt to treat her younger sisters in the same way, even before they have issued from their cells.

That the swarm, after it has become settled in its new home, recognizes in any way the relationship it bears to the old colony, is utterly absurd, and, as every practical apiarist knows, has no foundation in fact. The "ties of kinship" are not as "clearly recognized as they are between consanguineous tribes of men." Nay, the very opposite is true. They are not recognized at all after the swarm has become distinct and separate from the colony remaining in the hive, which is composed of the young bees with the young queen.

We are again told: "Bees readily substitute oat meal for pollen, if they can get it." Bees can be taught to take rye meal as a substitute for pollen when they cannot get pollen, but Prof. Evans, nor any one else, never saw a colony of bees that would take oat-meal in preference to pollen. In fact, they will not take rye meal at all, if they can get pollen.

However, the above quotations are not so bad as they might be, for they are harmless; that is, it will do no more injury for the people to receive them as true than it would for them to receive any other innocent absurdity in the name of science. Had it not been for the statement which follows, I should not have felt called upon to point out these mistakes of the Professor. But in further support of his argument, he tells his readers that "Apiarists now provide their hives with artificial combs for the storage of honey, and the bees seem glad to be relieved from making cells, as their predecessors had done."

Apiarists do not "provide their hives with artificial combs," but they do sometimes fill the frames of their hives with comb foundation; but this is the *real stuff*—beeswax—in thin sheets with an imprint like the bottom of the cells. This is not "artificial comb," and the bees are not "relieved from making cells." They have the cells to build, the same as they do when they secrete the wax in their own bodies out of which the combs are formed. The modern apiarist furnishes the wax and saves the time and labor of the bees that would be required to secrete it, but nothing but wax will do, and some colony of bees had to secrete that wax. It cannot be made by any "artificial" process.

I hardly think there is any evidence that the bees are "glad" to get this

wax. We only know that they will use it.

Some years ago Prof. H. W. Wiley wrote what he afterward called a "Scientific Pleasantry," for the *Popular Science Monthly*, if I am correct, in which he described how "artificial comb" was made, and filled with imitation honey, and declared that an expert could not distinguish it from the genuine stuff. He thus gave currency to what has become known among apiarists as the "Wiley lie," of which Prof. Evans' statement seems to be an echo.

You have no idea, Mr. Editor, how much injury this little "pleasantry" has done the bee-keepers of this land. For, notwithstanding the fact that Prof. Wiley has explained, over his own signature, that this was only a joke, and Mr. A. I. Root, of Medina, Ohio, has offered \$1,000 for a single pound of the comb, which has not been forthcoming, yet the papers and the people go on repeating this slander on an honest and reputable industry.

I have no idea that Prof. Evans thought that he was doing any industry an injury when he wrote the article referred to, but it does seem that it is high time that people who write in the name of science about bees, should inform themselves as to the facts which may be obtained from any practical and intelligent apiarist, one or more of whom may be found in almost every community.—*Popular Science Monthly*, for April.

St. Joseph, Mo.

The Cause of Foul-Brood.

J. F. LATHAM.

After having read and weighed the various ideas embodied in the essays in which the origin, treatment and cure of foul-brood have been discussed, I am somewhat unreconciled to the acceptance of the prime cause of that malady as argued by many of the learned authors who have contributed their theory and experience to a solution of the problem.

So far as visual demonstration, illustrative of the general phases of growth, culmination and disintegration of organic results, representing the disease of foul-brood, are concerned, there is a very general agreement. But even the teachings of Cheshire and Cowan fail to delineate the origin of the scourge they so graphically describe and illustrate. Cheshire tells us that the bacilli from

which the destructive tendencies of foul-brood develop, are found active in the tissues of all stages of bee-life, and in the latent sperm-cells of the drone, and in the unlaidd egg of the queen.

When bacilli are found in the tissues (muscular or otherwise) of the full-grown bee, the aspect of their presence would, it seems, be evidence sufficiently conclusive to warrant results emanating from causes accompanying physical decline—degeneration of organic stamina; but when found only in the spermatozoon of a vigorous drone, the fact of the location of the seeds of abnormality very naturally prompts a query concerning their origin.

If the bacilli were taken into the system by the processes of digestion and assimilation, it seems that they would find a lodgment in the muscular tissues of the bee when not expected in the excreta, instead of in isolated functional members only. The same assumption would apply very harmoniously to the presence of bacilli in the unlaidd egg of a fecundated queen-bee in the performance of her normal functions.

But if bacilli were found in the *drone* eggs of an unfecundated queen, the origin of their presence there would be more mysterious than when found in the eggs of a "fertilized" queen, aside from the question of functional assimilation through the circulating medium.

Now, if the bacilli, which are purported to develop physical decay—foul-brood—do pass into the system from the food by assimilation, and remain dormant until they are stimulated to activity by conditions congenial to their development as parasites, it is quite certain that they must occupy a place in the development of all animate objects, and only wait a suspension of the impetus displayed in vigorous growth to assert their activity, and evolve a course of development through the established grades of existence consonant to their rank in the scale of life—animal and vegetable.

Scientists teach us that "foul-brood" is the result of fungoid growth. What is fungoid growth? Is it not, in a primitive sense, a development of the latent principle embodied in forces that stimulate to motion—activity—are ever drawing into vortices the elements in their surroundings, and by a continuous rejection of the (to them) useless and exhausted portions, generate results peculiar to their line of progression?" In a modified degree there is a semblance in the modes of propagation in whatever situation it may be found. The pro-

cesses by motion, absorption and repulsion are very uniform in their collective influences.

The declaration that there can be no plant without its seed is scarcely comprehensive enough, in a radical sense, to involve the medial of nature's secrets which are hidden from the eye alone, or when aided by microscopic power.

At this point there seems to be a disconnection of the knowable and undemonstrable in the teachings of those who have attempted to describe to us novices what foul-brood really is. Some writers teach that the spores of foul-brood feed on the *healthy* fluids of the larval bee. But can the spores of disease exist in the *healthy* fluids of the larva except in a state of dormancy? It seems that they cannot; but to the contrary, it seems very certain that an abnormal condition of the fluids is the true feeding-ground of the parasitic spores.

Again, it does not appear that the presence of spores in a healthy organism will generate the disease of foul-brood by contamination due to their presence alone, as may be led to the belief by reading the statements of some writers. Would it not be more reasonable to hold that a contamination of the soil in which the seeds are planted first stimulate their germination? Analogy very strongly favors that side of the question. To "sum up," the position appears reasonably tenable when supported by the assertion that the soil must be first in a suitable condition; and the surroundings congenial, before seeds, from which the spores of foul-brood are generated, will produce the plant or fungus representing the disease.

West Cumberland, Me.

Bees Working in the Open Air.

JOHN D. A. FISHER.

In regard to bees building comb and working out in the open air, I would say that in our part of the county bees settling and building comb out in the open air is of frequent occurrence. I have said before that I believed the bees acted thus because they had failed to find a home, being tired and discouraged, and as a last resort they built combs on a limb, or anything else on which they may have chanced to have clustered.

Some 22 or 23 years ago I was walking through a piece of new ground, which contained brush-heaps. In passing one of the brush-heaps my foot

caught on an end of a large brush that jarred the brush-heap. I was surprised by the sudden sound or roaring of bees. On looking, I at once saw that there was a swarm of bees in the brush-heap, and that they had comb.

I at once made arrangements to hive the bees. I found that they had four or five nice pieces of comb, with brood and honey.

About two years ago, Mr. W. Safritz found a large swarm of bees on some small bushes on the bank of a small stream. They had built nice combs, and were to all appearances enjoying their home in the open air.

Last year bees began watering at the ford on the public road across a creek here. Several parties had gone to the place to try to see where the bees were located. It was discovered that the bees went straight up. At last the swarm was seen away up on a large limb of a tall Spanish oak tree, about 60 feet from the ground. The limb hung directly over the road. This was a very large swarm of bees; we could see they had built four combs about two or more feet long, up and down the limb. Just how deep they were we could not tell.

How to get the bees down was a puzzle. At last Mr. Thomas Byrd said he would go up and saw off the limb. This he did by cutting slats about 2 feet long, and nailing them to the tree with large nails, commencing at the ground, and nailing and climbing as he went up, until he reached the limb the bees were on. He then sawed the limb off, and down came limb and bees; but, alas, for the poor little workers! Their beautiful new home, with themselves, was smashed up.

Yes, bees will build comb in the open air when they cannot find a home elsewhere.

Woodside, N. C.

Conductors vs. Absorbents in Wintering.

C. W. DAYTON.

A great deal has been said the past few months about using the cushions of porous material as absorbents, to *absorb* the moisture that is produced by the clusters of bees.

If the moisture is to be absorbed and retained by the cushion until the Winter is over, then the questions come up as to how large the cushions will need to be, and how much moisture there will be for the cushions to absorb.

In some cases where the cushions were arranged to absorb, and where they were found to have absorbed moisture until they had become wet, there is complaint that the cushion was at fault on that account. It is not reasonable to suppose that a cushion shall absorb moisture all Winter, and still come out dry in the Spring.

I remember plainly when I used to put absorbents over the cluster of bees to take up and retain the moisture, but how or when I became changed over in favor of conductors, I do not know, unless it is from the following experience which happened in 1884.

Up to that time I had wintered all the bees in the cellar, but at that time there were 5 or 6 colonies more than could be conveniently put into the cellar, and I thought it would be a good chance to try out-door wintering. Dry goods boxes were used, which were about 8 inches each way larger than the hives, and after providing a passage for the bees from the hive to the outside, it was packed around with forest leaves.

The boxes were a foot or more deeper than the hives were high, so that there was 8 inches of leaves placed over the bees, and still left a vacant space below the cover. Before the leaves were spread over the brood-frames, everything was taken off, and a piece of new muslin laid on top of the frames. The leaves over the bees were not pressed down, but were just thrown in loosely.

The cover consisted of two or three wide boards laid across the the top of the boxes with two or three stones to hold them in place. I really like to see a nicely-painted, close-jointed hive built so true and square, but they cannot compare to these dry-goods boxes as confidence receptacles.

I have several kinds of hives whose construction is perfect, and where material alone in some of them cost from \$4 to \$5 each, with roofs of tin, shingles and sheet iron, but when I wish to examine a clean, dry and rousing colony, my confidence points toward a dry-goods box, and it has never yet been misplaced.

To return to the subject in question: After preparing the colonies for Winter in the dry-goods boxes, as usual, and the leaves had been loosely thrown in, I thought, as I started to go away, "Now, as those leaves are so loose, the heat will pass quickly through them, and the bees will become cold and uneasy;" so I laid upon the leaves, under the cover, a board about 20 inches square, and left them so about a month.

On examination, under this board, the leaves were quite wet for about 2 inches downward toward the bees. Two weeks more, and the leaves were found to be soaked for about 4 inches in depth. When the board was taken away, the leaves became dry again, as were the leaves over other colonies.

From this time I began to arrange matters so that all moisture that came into the packing above the bees would move on, and leave the packing dry. This was exactly what had been done before, but I had not discovered that laying a board on the leaves would cause the moisture to accumulate. Further experiment has proved that one inch of porous packing, and an absolutely tight cover is dangerous, and it matters but little how much empty space there may be inside the cover; the moisture will accumulate in the cushion and destroy the bees.

With an open cover, and too much packing, the effect is the same.

The point to be aimed at is to put on enough packing, and to have the packing porous enough, that all the drafts that arise from the bees will proceed directly upward, and not any of it be forced backward, downward, or toward any corners of the hive.

It might be supposed that so rapid an escape of warmth would be detrimental, but it is not so; the bees only cluster closer together as the cold is increased. They can endure this close clustering for a month or so very well, it seems.

In very cold Winters I find 8 inches of loose forest leaves about right on the 42° parallel. With this same amount of packing, and the other preparation the same, when it is a warm Winter the 8 inches is too much, and it turns the currents downward amongst the combs, and towards the corners of the brood-chamber, and around the edges of the packing, and the hive becomes damp and moldy, and honey sours. When the Winter is a warm one, 5 or 6 inches would be nearer right.

I always pack my bees for a medium Winter, or one that is colder than a medium. Then if the Winter proves to be a warm one, some of the packing can be removed, and if there is more cold weather, boards or sticks can be laid on the packing to compress the leaves, or when there is enough snow, I cover up the hives entirely with it. If continued warm weather sets in, the snow and sticks should be taken away. By varying these several conditions rightly, the colonies are sure to come out bright, shining and sweet.

For a time it was aimed to arrange the packing over the bees so as to keep them warm, and the difficulty was to know how the bees felt, which was impossible to tell. On the other hand, it is easy to tell when the bees are dry and sweet, from an examination of the packing over the cluster. By quietly pulling away the warm packing down to the quilt, and lifting the quilt gently, we can look at the bees for half a minute before they seem to know they have a caller. All the indication there is that they know of our presence is, that they will suddenly raise their bodies, a few wings will tremble a little, and they settle down as motionless as before, and not a bee changes its position.

This quietness might be supposed to be caused by the bees being chilled by the loss of warmth through the porous packing, indeed I labored under the very delusion for several Winters, when I observed that these same colonies which were so still when the temperature was 30° below zero, were just as motionless when it was 40° above zero, and the snow thawing away. But there was a great difference in the size of the cluster at the different temperatures, showing that they regulate the warmth by compact and loose clustering.

As before stated, the packing directly above the bees should be dry and warm. This statement is misleading. Directly above the cluster it is always the driest part of the packing. Of course it should be dry and warm directly above the cluster, but we must go further and see that it is dry at the edges of the packing where the upper edge of the hive, or where the division-board, meets the packing overhead.

It is a poor conclusion that we arrive at when we poke a hand down into the packing directly above the cluster, and say the condition of the hive or colony is dry.

At and behind the division-board, 6 inches from the cluster, it may be damp, and water standing in drops, or frost, if it is cold enough to freeze. If this moisture extends into the brood-chamber one inch at the top of the hive, that is, the width of one comb. Three inches lower down inside the hive, and the moisture has possession of the second comb. Three inches further down, and it extends to the third, and so on to the fourth, until the dry space in the hive which the bees occupy, may be compared to an inverted cone. There is seldom more moisture than of mold, as the combs plainly show in the Spring, where the outside comb is very moldy, the next one

half-covered with mold, and the next less still, and so on.

With plenty of upward ventilation the combs stay dry.

About Feb. 1, we had just had about three weeks of quite cold weather, after which it has turned warmer, so that the bees could fly if they wished to. But suppose the weather had not been quite warm enough for a flight, and then started in on a month or two more of cold weather, just at the time the honey that was dry was consumed, and the cluster had been obliged to move, and everything was covered with sweat or frost. When the combs are covered with moisture in a warm spell, even in Winter, the honey sours, and the mold grows in a bee-hive just as much as in Summer.

The cold may crack the combs clear through, and the moisture bursts the honey-cells open so that the combs are a dauby, sticky, fermenting mass, and every breath of warmth the bees produce that cannot escape from the brood-nest turns into a befouling agent.

I have observed in hives where there were 6 Langstroth combs, and the bees were clustered on one side on four combs, that the warmth passed upward on the side of the cluster nearest the vacant combs, and flowed over the first top-bar into the next empty bee-space. At the point where the warm current met the colder air that was behind the comb, was where moisture continued to condense and run down on the outer side of the unoccupied comb. This was an exceptional instance. At other times the moisture condensed as the warmth circulated around the sides of the unoccupied combs, very slowly in progress, but with long spells of weather of nearly the same kind of weather the hive and combs became covered with large drops. A decided change in the weather made the condition either better or worse.

Variable Winters need variable packing.

It is as reasonable to vary the preparation for the ventilation of the bee-hives out-of-doors for the different Winters, as to vary the fuel burned in our stoves, the necessary banking around our bee-cellars, or the clothing on our beds. One Winter in my remembrance (1886-87), there were in the month of January 21 days in succession when the temperature did not come up to zero, and for 7 weeks it did not thaw on the south side of buildings. Three or four of the days the temperature was 40° below zero.

January of this year (1892) it was below zero only four times, and we had sleighing twice, and both times it thawed away. The instincts of the bees to cluster closer may keep them warm, but they are just as liable to be destroyed by conditions produced by unsuited packing.

Clinton, Wis.

Odd Sized vs. Regular Sections, Etc.

J. H. ANDRE.

The difference in the cost of an odd-sized section over the regular size is not so much as people generally suppose. Orders for regular sizes are sometimes filled with old sections that have been on hand from one to two years. There is more or less loss in breakage in putting together old sections, even with great care. A special order for an odd size always insures freshly-made sections with little loss from breakage, which more than over-balances the increase of cost.

WATER IN THE APIARY.

It makes a great difference whether bees have to go half a mile for water, or it is furnished them in the apiary. A large, deep, earthen dish with a cloth spread over it is the most convenient of anything I ever used. The cloth should be weighted to the bottom of the dish in the center. There will be a steady drip from the edges of the cloth hanging outside the dish, which gives the bees a chance to get water without danger of drowning.

BEST LOCATION FOR BEES.

The best locality for bee-keeping is a played-out lumber country where a part of the land is unimproved farms, and the rest slashings from which the timber has been removed. The latter burns over more or less, and more honey is obtained from one acre on an average than from five acres of improved land.

A large area of well-improved lands is a poor locality for bee-keeping. Quite frequently the dependence in such places is on clover, basswood, or one kind of flowers. If these are a failure, and one has to feed for Winter stores, it takes the profits of several seasons.

HIVE WITH SIDE FRAMES.

Among the many ideas that have come to mind, I have thought of making a hive which will have just space enough on

each side for one brood-frame, the body of the hive being square, with a box in the center. Colonies for wintering will use the same size frame. These hives will be used on the tiering-up plan, with queen-excluders. The frames being at the outside, will have a tendency to keep the bees more evenly at work in the surplus, especially the last case on the hive, than they generally do with a small brood-chamber in the center of the hive.

In the Fall the bees can be united with another colony, and the frames used in the place of old ones in the regular colonies, or used in the hive the next season.

When making bee-hives cut the lumber for the hive, and cap the same length you wish the size inside. Use a strip of one-fourth round moulding in the corners to put them together. This makes a neat-looking hive, and the moulding also prevents the sides from splitting. If put together with a mitre joint, there is nothing to prevent the lumber from checking. Where two pieces check at the corners exactly opposite, the hive is spoiled.

CHESTNUT SURPLUS-CASES.

Chestnut makes the best surplus-cases (if they are not exposed to the weather) of any timber I ever used. They are cleaned of wax and propolis much easier than other kinds of wood, and get smoother by use.

Lockwood, N. Y.

The Singing of Birds and Bees.

DR. J. W. VANCE.

Into the quiet solitariness of the sanctum of the bee-editor comes the sounds of the birds as they warble their happy songs of rejoicing over the bright prospects of another Summer. But the air is still too cold for the bees to venture out far from their hives. They scurry about the entrances, and hum a merry note, cheering one another, yet not daring to fly far from home. However, it will not be long before the maple and willow will be luring the bees from their combs to sip the fresh nectar that shall flow from their tiny cups. Already the queens are laying, and in many hives great patches of brood are incubating, and ere long the frowzy young bees will be coming forth to reinforce the decimated ranks of their ancestors, and to gladden the heart of the anxious bee-master who has watched hopefully over his pets.—*Wisconsin Farmer*.


CONVENTION DIRECTORY.*Time and place of meeting.*

1892.


May 17.—Northern Illinois, at Harlem, Ills.
D. A. Fuller, Sec., Cherry Valley, Ills.May 25.—Capital, at Springfield, Ills.
C. E. Yocom, Sec., Sherman, Ills.May 28.—Haldimand, at Nelles' Corners, Ont.
E. C. Campbell, Sec. Cayuga, Ont.Oct. 7.—Utah, at Salt Lake City, Utah.
John C. Swaner, Sec., Salt Lake City, Utah.

1893.

Jan. 13, 14.—S. W. Wisconsin, at Boscobel, Wis.
Benj. E. Rice, Sec., Boscobel, Wis.

 In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' AssociationPRESIDENT—Eugene Secor, Forest City, Iowa.
SECRETARY—W. Z. Hutchinson, Flint, Mich.**National Bee-Keepers' Union.**PRESIDENT—James Heddon, Dowagiac, Mich.
SEC'Y AND MANAGER—T. G. Newman, Chicago.**Bee and Honey Gossip.**

 Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Fine Prospects for Honey.

My bees are in good condition for Spring and Summer work. The prospect is fine for a good year for honey.

G. B. CARTMELL.
Jackson, Tenn., May 5, 1892.**How the Bees Have Wintered.**

My 40 colonies of bees are reduced to about 35, owing to my misfortune. On Jan. 2 I slipped on the ice and broke my hip-bone, and have not been able to be out-of-doors since. The bees need attention more than I can give them. Twenty colonies that winter and summer in a bee-house, are all alive; they fly out when warm enough. I have kept bees about 35 years. My only dependence for surplus is white clover. Last season I had over 1,200 pounds, and sold 6 pounds for \$1.00. My loss in wintering is more than I first thought, being 20 to 25 per cent.

ROBERT MEEKS.

Muncie, Ind., April 21, 1892.

Italians and Black Bees.

I have kept bees for the last five years, and have had Italians and blacks side-by-side, and gave both a fair test. I am decidedly in favor of the Italians. It is probably true that Italians are a little slow in entering the sections, but when they do start work they leave the blacks far behind. I am afraid those that claim that the blacks are superior, have not given the Italians a fair chance. How is it that all extensive bee-keepers, as a rule, keep and prefer Italians, especially those that work for the money there is in it? They do not keep them for their beauty alone, but because they gather more honey, and consequently give more money to the apiarist, and money is what we are after. They are easier to handle, and protect themselves better than any others. The person who produces a better race of bees than the Italians, has to get up and hustle.

W. A. SAUL.

Denison, Iowa.

Backward Season.

Bees have wintered well here, but the season is backward, and colonies are not as strong as they usually are at this season of the year.

WALTER S. POWDER.
Indianapolis, Ind., April 29, 1892.**Wintering and Springing Bees.**

When overhauling my bees on March 10 and 11, I found them in the best of condition. Of 40 colonies, 38 were all right in every respect, but 2 of them, although strong in bees, were queenless. One queen of 1886 had died of old age, and another one, hatched the latter part of September, 1891, had disappeared. I provided all with additional stores where needed, and replaced the top packing. On April 22 I looked them over once more, and gave them from 1 to 3 frames more, partly filled with honey. I registered them: 15 extra colonies; 6 strong; 7 middling; and 3 weak in bees, but otherwise in healthy condition.

April has been exceedingly hard on bees. It has been wet and cold three days out of four, and the first three days in May are the same, so that many bees perish when they leave the hive for water, rye flour, or recently, pollen. If this weather continues, my bees will have up-hill work, but I am in hopes

that soon a change for the better will come. So far, maple, elm, buffalo-berry and willow-bloom have not benefited the bees one particle. On April 30 the thermometer ranged 90° in the shade, and bees were roaring in box-elder trees, but since then we have again northern winds prevailing, and a drizzling rain. The result is hundreds, yes thousands, of bees leaving their hives never to return. The prospects for bee-pasturage is good. Sweet clover, alfalfa and white clover are luxuriant, and fruit-bloom is about ready to open; but what does all this amount too, when bees cannot work on them, when they bloom?

WM. STOLLEY.

Grand Island, Nebr., May 3, 1892.

Taste of Honey, Etc.

In answer to a query asked by a subscriber of the AMERICAN BEE JOURNAL, I will say that there is a wide difference in the taste of honey in the comb, and in extracted-honey gathered from the same flowers. In comb-honey we get the beeswax flavor with the honey flavor, and with the extracted-honey we only have the honey flavor. There is a wide difference in the taste. The weather is cool and cloudy, with some very heavy rains, which is a drawback to our queens in mating.

MRS. JENNIE ATCHLEY.

Floyd, Tex., April 29, 1892.

The Season in Northwestern Missouri.

I began the season of 1891 with 7 colonies, increased to 17, and obtained 150 pounds of comb-honey, and 100 pounds of extracted, mostly being gathered from honey-dew, as white clover failed from some unknown cause to secrete any nectar. Through August and September the bees stored a little honey from the Fall bloom—Spanish-needle and wild asters. The Spring and Summer of 1891 was noted here for its heavy, long-continued rain storms, and the Fall months by a severe drouth (hot winds from the southwest, which is almost wholly unknown to the oldest settlers) played sad havoc with the Fall flowers, burning them to a crisp in a single day, and the apiarists who failed to supply the needed stores for Winter, are reaping their reward, and there are not a few, to my own personal knowledge. I think they have paid dearly for the lesson learned. My bees are packed on the summer stands. When I packed them away last Fall I doubled

them up to 12 colonies, and all have come through all right so far, except one very weak colony. This has proved to be one of the hardest Springs on bees for many years—cold and backward, with very high winds, keeping the bees in the hives. All through March and April, having had only six pieces of days in which they could gather pollen, one can easily guess the condition the bees are in, and to-day the rain is falling, and it is quite cool. If the bees ever needed sunshine and flowers, it must be now.

W. R. ELWOOD.

Humphreys, Mo., May 1, 1892.

Prospect is Good.

My 24 colonies of bees came through the Winter all right. The prospect is good for the coming season.

P. H. WHEATLEY.

Millwood, Mo., May 2, 1892.

Punic and Carniolan Bees.

On Oct. 19, I introduced six Punic queens to as many colonies of black bees in an out-apiary. Two of the colonies died, and the other four are in good condition. One of them is in a double-walled hive, with closed-end frames, and a better colony of bees cannot be found in this country—not even in the Southern States, where they have no Winter. I saw this colony on April 25, and it was then in a condition to swarm. There was capped drone-brood near the top of the frames at the extreme corners, and no less than seven frames filled solid with brood. These bees had not been troubled by any one since the queens were introduced. The colonies in my home yard were almost depopulated by diarrhea, and for this reason I cannot give as good a report as I would like. As all these colonies were fed more or less sugar syrup in the Fall, I cannot say whether it was Fall honey, of which they gathered some dozen pounds, or the syrup fed to them that caused the diarrhea. I brought home some 25 colonies of black bees late in the Fall, and these all wintered nicely. I can show one apiary of 10 colonies of golden Carniolan bees, situated a few miles from Boston, that would make the eye of almost any enthusiast bee-man twinkle. The hives are full of beautiful bees, and no doubt they will give the owner a large income before the season ends. I introduced the queens to these colonies in June, 1891. From nearly 500 golden Carniolan queens which I reared

n the season of 1891, only 3 complaints have been made. This is not a bad record. I am glad that so many bee-keepers were willing to try the new races and new strains of bees.

HENRY ALLEY.

Wenham, Mass.

Rainy Weather—White Clover.

If you have any good weather to spare, please send us a few sunshiny, warm days, to get our bees warmed up so that they can get around a little. We live in hopes that the weather will clear up sometime, but it does not look much like it to-day. The rain is pouring down. Where can I get 8 or 10 pounds of good bees to put in with my light colonies, to help them out in this time of cloudy and rainy weather? My 50 colonies that I put into the cellar last Fall are reduced to 20, and a chance for still further reduction. A Mr. Snow put in 125 colonies last Fall, and has 62 left, and some of them will probably go, too. White clover looks well here, but it is of no use without bees to gather it.

MARK D. JUDKINS.

Osakis, Minn., May 4, 1892.

[By consulting the advertising columns of the BEE JOURNAL a little later, you will doubtless find a number of parties who have bees to sell by the pound. You will then be able to build up some of the reduced colonies you mention as being weak.—Ed.]

Kansas Bee-Keeping—Sick Bees.

This is my first year of bee-keeping in this climate. I find that bee-keeping in the South and bee-keeping in Kansas are different things. Last Fall I had 40 colonies in, as I thought, good condition. This Spring I found I had lost during the Winter 8 colonies, and some of the hives had considerable honey left in them. Three have died since the Spring opened—I think they were queenless. The 8 that died in Winter, I think was caused by dampness. I am led to believe that dampness is one great drawback with bee-keepers in Kansas. However, I may be differently impressed after I have further experience. As is well known, Kansas has some very fine weather in Winter, and changes very suddenly. During the Winter we would have warm rains, and

in less than six hours everything would be frozen.

I met with one thing last week that I had never heard of before. A swarm of bees came near my apiary last week, and settled. I suppose they had been starved out somewhere. I hived them nicely, then I gave them a pint of thick syrup, made of granulated sugar. In less than an hour I found a number of the bees sick and crawling aimlessly around on the ground. The next morning a number were dead; they would crawl out of the hive, not able to fly, and would start off; some would get a rod away before they became helpless. This was kept up for four days, and finally all died. I am at a loss to know the cause of this strange occurrence. I wish some one would tell the cause. Leavenworth county, Kansas, is, in my judgment, a splendid county for bees and honey. There are a great many fruit-growers in the county, and much timber, with a considerable amount of basswood. My bees are doing well, storing honey very rapidly, and rearing brood.

J. L. WOOD.

Lansing, Kans., May 2, 1892.

Favorable for a Great Honey Crop.

At this date, Central Indiana is just right for bees. The atmosphere is right, being warm and cloudy, with occasional showers. I have not seen fruit-bloom in as fine condition for 20 years. All is very favorable for a great honey crop this year, as well as for fruit. But red clover is not as plentiful as usual, and as it is one of our best honey-plants here in dry seasons, we may yet be disappointed. Bees are in very fine condition, and will be ready to save the harvest if it comes.

R. S. RUSSELL.

Zionsville, Ind., May 5, 1892.

Swarmed on May 5.

The loss in bees has not been as great as expected. Considering the bad weather, they have built up surprisingly well. The first swarm issued on May 5.

W. ROBSON.

Rolla, Mo., May 6, 1892.

Spring Playing Havoc with Bees.

Bees have wintered very poorly, or rather it is the Spring that is playing such havoc among them.

MRS. PARKER ERWAY

Hastings, Mich., April 30, 1892.

Wavelets of News.

Butter Tubs to Hold Water for Bees.

When an apiary is not located near a stream, water should be provided for the bees in suitable vessels early in the season, before they have located their drinking places. After having chosen a drinking place, they will frequent the same during the season.

Bees drinking at neighbors' wells and water troughs, have been the source of disputes and grievances; for horses and cattle will suffer with thirst rather than drink water bordered with bees. Wooden tubs, such as butter is shipped in, make good water receptacles, much better than crockery ware, for bees can climb out of a wooden vessel if they fall into the water, but they cannot from a smooth, glossy receptacle.

Put some cloth into the water, and let it hang over the tub. It will act as a siphon, and the bees will sip the water from the sunny side. Renew the water often, and change the cloths; part of the vessels should contain water slightly brackish (about a tea-spoonful of salt to a pailful of water).—*Exchange*.

Body to Honey.

The honey stored on the prairie, I believe, is thicker than the honey gathered in the timber; there is an abundance of wild flowers here that bees work on, but I think the past season my bees got the most honey from a field of mustard on an adjoining farm.—H. V. POORE, in *Farm, Stock and Home*.

Spring Work, Etc.

Spring is here. How have the bees wintered? In central northern Iowa the mortality is great. The Winter has not been severe, hence the loss has not been caused by severe weather. Last year was a poor one for honey. The colonies not fed in the Fall were not supplied with stores sufficient to carry them six months. Empty hives is the logical result.

As nearly everything produced brings a good price when no one has it to sell, we think honey will be in demand another year. With fewer bees to gather it, the crop is not likely to be extensive in localities where a failure was experienced last year, and bees died of starvation. A year of plenty is likely

to follow one of scarcity. Do not let the bees you have left, starve before the honey-flow begins.

A dollar's worth of sugar may save several colonies, and pay several hundred per cent. on the investment. Look well to your bees from now until June 1. See that they do not get out of honey. If they do, brood-rearing will stop, even if they do not die outright, and you cannot get a harvest without workers.—EUGENE SECOR, in the *Farmer and Breeder*.

Keep Bees Dry.

Above all things keep your colonies dry. Thousands of colonies perish every year by leaking covers. Whenever moisture from without is added to the general moisture or evaporation from the bees within, a damp and chilly atmosphere is the result, which generally proves fatal in frosty weather to the bees. Tin roofs well painted, with ventilating holes in the gable ends, are a sure preventive. A cushion made of coffee-sacks, the size of the hive, and filled with wheat-chaff, is an excellent absorbent of moisture.

Such hives as will not admit a cushion within, can be aided by having a ventilating aperture on top 2 inches square, covered with wire-cloth and a cushion without. Such a cushion must be made of "duck," impermeable to rain, or oil-cloth, so cut as to go over the outside of the hive, and with a drawing-string of twine run through the edge of the cloth so that it can be fastened tight to the hive. Chaff is put into it, and it is then drawn over the hive and tied.—*Farm Journal*.

Different Thoughts and Views.

Many men have many minds, and many bee-keepers have different styles and systems of managing bees. One makes a discovery in a certain branch of apiculture, and another in something else, and so on; and if they would exchange their thoughts and inventions, they would benefit themselves and all interested in apiculture greatly. One could easily write enough to fill an ordinary bee-paper, but this is not the way to do; the views of any person are too one-sided, and the public may tire of them. What is needed is variety, and the more the better. Let every bee-keeper give his opinion on that branch of apiculture that he is proficient in.—*Exchange*.

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The date on the wrapper-label of this paper indicates the end of the month to which you have paid. If that is past, please send us a dollar to pay for another year.

Systematic work in the Apiary will pay. Use the Apiary Register. It costs:

For 50 colonies (120 pages)	\$1 00
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As there is another firm of "Newman & Son" in this city, our letters sometimes get mixed. Please write *American Bee Journal* on the corner of your envelopes to save confusion and delay.

YOU NEED an Apiary Register, and should keep it posted up, so as to be able to know all about any colony of bees in your yard at a moment's notice. It devotes two pages to every colony. You can get one large enough for 50 colonies for a dollar, bound in full leather and postage paid. Send for one before you forget it, and put it to a good use. Let it contain all that you will want to know about your bees—including a cash account. We will send you one large enough for 100 colonies for \$1.25; or for 200 colonies for \$1.50. *Order one now.*

Supply Dealers desiring to sell our book, "Bees and Honey," should write for terms.

We Club the American Bee Journal and the Illustrated Home Journal, one year for \$1.35. Both of these and Gleanings in Bee Culture, for one year for \$2.15.

If You Have any honey to sell, get some Honey Almanacs and scatter in your locality. They will sell it all in a very short time.

Bee-Keeping for Profit, by Dr. G. L. Tinker, is a new 50-page pamphlet, which details fully the author's new system of bee-management in producing comb and extracted-honey, and the construction of the hive best adapted to it—his "Nonpareil." The book can be had at this office for 25c.

Please send us the names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you.

When talking about Bees to your friend or neighbor, you will oblige us by commending the BEE JOURNAL to him, and taking his subscription to send with your renewal. For this work we will present you with a copy of the Convention Hand-Book by mail, postpaid. It sells at 50 cents.

HONEY AND BEESWAX MARKET.

CHICAGO, May 7.—Fancy comb honey is selling at 16c.; choice, 14@15c. Other grades 10@13c. Extracted, scarce, good demand, at 7@7½c. Beeswax, active sale, 28c.
S. T. FISH & CO., 189 S. Water St.

NEW YORK, May 7.—No demand for comb honey excepting fancy white. Quite a stock on the market of off grades and buckwheat. New Southern extracted arriving and sells at from 70@75c. per gallon for choice; 65@70c. for common. Beeswax quiet but firm at 27@29
HILDBRETH BROS. & SEGELKEN,
28-30 West Broadway.

KANSAS CITY, Mo., May 7.—Demand light, supply large. Prices: No. 1 white comb, 13@14c.; No. 2 white, 10@12c. Extracted, white, 6@7c.; amber, 6@6½c.; dark, 5c. Beeswax—Demand good, supply light. Price, 22@27c.
CLEMONS, MASON & CO.,
Cor. 4th and Walnut Sts.

CINCINNATI, May 7.—Demand is slow for comb with good supply. Price, 12@15c. Demand for extracted is fair at 5@8c. Beeswax is in good demand, at 25@27c for good to choice yellow.

C. F. MUTH & SON,
Cor. Freeman & Central Aves.

NEW YORK, May 7.—Demand for honey is very moderate, supply good, exceeding the demand. There is little demand for fancy 1-lbs. Market pretty well cleaned up of that grade, but plenty of fair. Prices: Comb, clover, 8@12c.; buckwheat, 7@9c. Extracted, clover, 6¼@7c.; buckwheat, 5¼@6c. Beeswax—Demand fair, supply plenty for demand, at 27@29
CHAS. ISRAEL & BROS., 110 Hudson St.

KANSAS CITY, Mo., May 7.—Demand poor, supply light of comb. Fancy 1-lbs., 12@13c.; dark, 8@9c. Extracted, white, 7c.; dark, 5@6 No beeswax on the market.
HAMBLIN & BEARSS, 514 Walnut St.

DETROIT, May 7.—The demand is slow, and supply fair, and will be absorbed by time new crop comes. Comb, 11@12½c. Extracted, 7@8c. Beeswax—Demand moderate, supply fair; price, 27@28c.
M. H. HUNT, Bell Branch, Mich.

CHICAGO, May 7.—Demand fair and supply short on fancy stock. Comb, 14@15c. Extracted, slow sale at 6@7c. Beeswax—Demand good, supply short on prime yellow; price, 25@28c.

J. A. LAMON, 44-46 S. Water St.

MILWAUKEE, May 7.—Demand very moderate, supply average of all grades but common quality. Best 1-lbs, 15@16c; common, 12@13c. Extracted, white, in barrels, 7c.; in kegs, 7½c; in pails, 7¼@8c. Beeswax—demand fair, supply small. Price, 23@28c.
A. V. BISHOP, 142 W. Water St.

SAN FRANCISCO, May 7.—Demand light, supply light. Comb, 10@12c. Extracted, 5@6¼c. Beeswax—Demand fair, supply light. Price, 25@27c. A fair to good honey crop for 1892 is expected.

SCHACHT, LEMCKE & STEINER,
16 Drumm Street.

NEW YORK, May 7.—Demand is light, and supply large, except buckwheat comb. We quote: Fancy white comb, 12@14c; buckwheat, 9@11c. Extracted—Clover and basswood in good demand at 6¼@7c; buckwheat in demand at 5@6c. Beeswax in fair demand at 26@28c.

F. I. SAGE & SON, 183 Reade St.

CHICAGO, May 7.—Demand is slow, supply fair, but not excessive, and market should clean up. Prices: Comb, 15c. is about the top. Extracted, 6, 7@8c.; supply small. Beeswax—Demand good, supply better than last season. Price, 27c. for yellow.

R. A. BURNETT, 161 S. Water St.

BOSTON, May 7.—Demand is light, supply fair. We quote: 1-lb. fancy white comb, 13@15c; extracted, 6@7c. Beeswax—Demand fair, supply light. Price, 28c.

BLAKE & RIPLEY, 57 Chatham St.

MINNEAPOLIS, MINN., May 7.—Demand is moderate, supply of dark is large, but white is not so plentiful. Prices: Dark comb, 10@13c.; white, 15@17c. Extracted, supply plenty. Beeswax—Demand good, supply small.
STEWART & ELLIOTT.

ALBANY, N. Y., May 7.—Demand is very little for comb at 8@12c. Market quiet. Extracted, 6@7c. Beeswax in good demand at 28@30c. for good stock.

H. R. WRIGHT, 326-328 Broadway.

NEW YORK, May 7.—Demand moderate, and supply reduced, with no more glassed 1-lb. nor paper cartons, 1-lb. We quote: Comb, 1-lb, 14@15c. Extracted—Basswood, 7¼@7½c; buckwheat, 5¼@6¼; Mangrove, 68@75c per gal. Good demand for dark extracted honey. Beeswax, in fair supply, with small demand, at 26@27c.

F. G. STROHMAYER & CO., 120 Pearl St.

The Convention Hand-Book is very convenient at Bee-Conventions. It contains a simple Manual of Parliamentary Law and Rules of Order for Local Bee Conventions; Constitution and By-Laws for a Local Society; Programme for a Convention, with Subjects for Discussion. In addition to this, there are about 50 blank pages, to make notes upon, or to write out questions, as they may come to mind. They are nicely bound in cloth, and are of the right size for the pocket. We will present a copy for one new subscription to the BEE JOURNAL (with \$1.00 to pay for the same), or 2 subscribers to the HOME JOURNAL may be sent instead of one for the BEE JOURNAL.

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